APPLICANTS: Chang-Hsing Liang, et al.

DOCKET: 8024-004-US

Gentamicin-Based

FIGURE 1

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Kanamycin-Based

	R ₄	R ₃	R ₂	R ₁
Amikacin	ОН	ОН	ОН	AHB
Dibekacin	ОН	ОН	NH_2	Н
Arbekacin	Н	Н	NH ₂	AHB
Tobramycin	ОН	Н	NH_2	Н

FIGURE 2

TITLE: New Aminoglycoside Antibiotics as

Novel Anti-Infective Agents

APPLICANTS: Chang-Hsing Liang, et al.

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	R ₁	R ₂	R_3	R ₄
Neomycin	ОН	ОН	NH ₂	Н
Paromomycin	ОН	ОН	ОН	Н
Lividomycin	Н	ОН	NH_2	Mannopyranose

Butirosin

TITLE: New Aminoglycoside Antibiotics as

Novel Anti-Infective Agents

APPLICANTS: Chang-Hsing Liang, et al.

FIGURE 4

APPLICANTS: Chang-Hsing Liang, et al.

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"Ring I" Substituted

R ₁	R ₂	R ₃		R ₁
AHB	н	Н	Arbekacin	АНВ
Н	Н	ОН	Tobramycin	Н

"Ring I" Substituted

R ₁	R ₂	R ₃		R ₁
н	Н	н	Gentimicin	н
AHP	Н	Н	Netilmicin	APH

APPLICANTS: Chang-Hsing Liang, et al.

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"Ring I" Substituted

R ₁
АНВ
AHP
Ethyl
н

"Ring I and Ring III" Substituted

R ₁
AHB
AHP
Ethyl
Н

TITLE: New Aminoglycoside Antibiotics as

Novel Anti-Infective Agents

APPLICANTS: Chang-Hsing Liang, et al.

DOCKET: 8024-004-US

"Ring I" Substituted

R ₁	R ₂	R ₃	R ₄		R ₄
ОН	ОН	NH ₂	н	Neomycin	н
ОН	ОН	ОН	Н	Paromomycin	Н
Н	ОН	NH ₂	Manno- pyranose	Lividomycin	Manno- pyranose

Butirosin

"Ring I" Substituted

APPLICANTS: Chang-Hsing Liang, et al.

 NH_2

ŌН

 R_1

AHB

AHP

Ethyl

Н

NHR₁

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AHB

AHP

Ethyl

Н

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ring I

$$(R)_{4}$$

"Ring I" Substituted

4,5-Substituted

R ₁	R ₁
АНВ	АНВ
AHP	AHP
Ethyl	Ethyl
Н	Н

Y¹ = divalent linking group

APPLICANTS: Chang-Hsing Liang, et al.

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ring I

$$(R)_{4} - O$$

$$(R)_{5} - O$$

$$(R)_{6} - O$$

$$(R)_{7} - O$$

$$(R)_{8} - O$$

$$(R)_{8$$

"Ring I" Substituted

4,6-Substituted

R ₁	R ₁
АНВ	АНВ
AHP	AHP
Ethyl	Ethyl
Н	Н

Y² = divalent linking group

FIGURE 10

APPLICANTS: Chang-Hsing Liang, et al.

BnO" OBn	BnO STol OBn	BnO''. O STOI	BnO" OBn	Aco" OAc
BnO STol	BnO O STol	BnO OSTol OBn OBn	BnO STol	BnO STOI
N ₃ O STol BnO N ₃ OBn	AcO STol AcO NHTroc	Me/, OSTol	Me O STOI "OBn NMe ₂	BnO STol
Me,, O STol BnO Me	Me O STol BnO'' OBn NMe ₂	N ₃ STol	Me, O STol	Me/, O STol F MeO M e
BnO STol	N ₃ O STol BnO'''F	N ₃ O STol	N ₃ O STol BnO'' ''OBn OMe	N ₃ STol

FIGURE 11

APPLICANTS: Chang-Hsing Liang, et al.

HO STOI BnO OBn	HO". OBn	AcO STol	Me O STol HO'' OBn NMe ₂	N ₃ —OSTol
HO STOI BnO N ₃	BnO STol	BnO N ₃ HO N ₃ STol	N ₃ OSTOI HO'''F	N ₃ OSTOI HO''OBn
HO STOI ACO NHTroc	Me ₂ N Me	BnO HO O Levo STol	Me, HO STol	N ₃ —Ostol

FIGURE 12

APPLICANTS: Chang-Hsing Liang, et al.

FIGURE 13